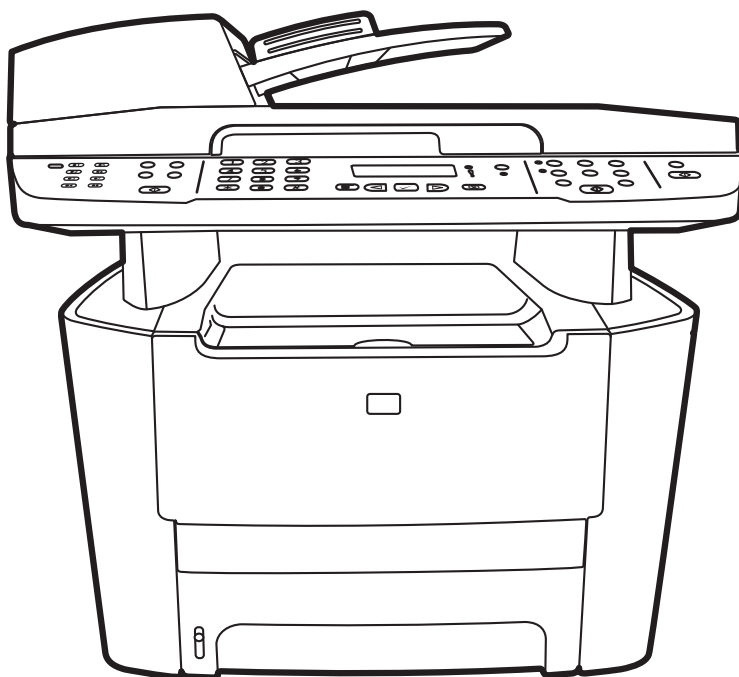


HP LaserJet M2727 MFP Series

Service Manual



For the complete PDF manual
please visit www.LaserPros.com.



HP LaserJet M2727 MFP Series

Service Manual



Copyright information

© 2007 Copyright Hewlett-Packard Development Company, L.P.

Reproduction, adaptation, or translation without prior written permission is prohibited, except as allowed under the copyright laws.

The information contained herein is subject to change without notice.

The only warranties for HP products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. HP shall not be liable for technical or editorial errors or omissions contained herein.

Part number CB532-90946

Edition 1, 11/2007

Safety information

WARNING!

Potential Shock Hazard

Always follow basic safety precautions when using the product to reduce risk of injury from fire or electric shock.

Read and understand all instructions in the user guide.

Observe all warnings and instructions marked on the product.

Use only a grounded electrical outlet when connecting the product to a power source. If you do not know whether the outlet is grounded, check with a qualified electrician.

Do not touch the contacts on the end of any of the sockets on the product. Replace damaged cords immediately.

Unplug the product from wall outlets before cleaning.

Do not install or use the product near water or when you are wet.

Install the product securely on a stable surface.

Install the product in a protected location where no one can step on or trip over the power cord and where the power cord will not be damaged.

If the product does not operate normally, see the online user guide.

Refer all servicing questions to qualified personnel.

Information regarding FCC Class B, Parts 15 and 68 requirements can be found in the user guide.

Trademark credits

Microsoft® and Windows® are U.S. registered trademarks of Microsoft Corporation.

Windows Vista™ is either a registered trademark or trademark of Microsoft Corporation in the United States and/or other countries.

Linux is a U.S. registered trademark of Linus Torvalds.

UNIX® is a registered trademark of The Open Group.

PostScript® is a trademark of Adobe Systems Incorporated.

Energy Star® and the Energy Star logo® are U.S. registered marks of the United States Environmental Protection Agency.



Table of contents

1 Product information

Quick access to product information	2
Product comparison	3
Product features	4
Product walkaround	5
Front view	5
Back view	6
Interface ports	6
Control panel	7
Serial number and model number location	8
Software description	9
Supported operating systems	9
Supported printer drivers	9
Software included with the product	9
Recommended installation for Windows	10
Express installation (USB or network)	10
Macintosh software	10
Software for Windows	12
HP ToolboxFX	12
Embedded Web server (EWS)	12
Software for Macintosh	13
HP Director	13
Macintosh Configure Device (Mac OS X v10.3, v10.4, and later)	13
PDEs (Mac OS X v10.3, v10.4, and later)	14
Uninstall software	15
Windows	15
Macintosh	15
Media specifications	16
Supported paper and print media sizes	16
Media to avoid	17
Media that can damage the product	17

2 Installation

Operating environment	20
Minimum system requirements	21
Unpack the product	22
Install input devices	23
ADF input tray	23
250-sheet input tray (tray 3)	24

Install the control-panel faceplate	25
Load paper and print media	26
Load documents to fax, copy, or scan	26
Tray 1	27
Tray 2 or 3	28
Configure trays	29
Change tray selection	29
Install memory DIMMs	30
Information	30
Install a memory DIMM	30

3 Maintenance

Manage supplies	34
Life expectancies of supplies and the product	34
Order supplies	34
Store print cartridges	35
Replace and recycle supplies	35
Replace print cartridge	37
Load staples	39
Replace the tray 2 pickup roller	40
Replace the tray 2 and optional tray 3 separation pad	45
HP policy on non-HP supplies	48
Reset the product for non-HP supplies	48
HP fraud hotline	48
Clean the product	49
Clean the exterior	49
Clean the flatbed scanner glass	49
Clean the scanner-cover backing	51
Clean the tray 2 pickup roller	52
Clean the ADF pickup-roller assembly	55
Clean the paper path	56
Clean the paper path from HP ToolboxFX	57
Clean the paper path from the product control panel	57
Manage the product	58
HP ToolboxFX	58
View the HP ToolboxFX	58
Status	58
Event log	59
Alerts	59
Set up status alerts	59
Set up e-mail alerts	59
Fax	59
Fax tasks	60
Fax phone book	60
Fax send log	62
Fax receive log	62
Help (Documentation)	62
System settings	63
Device information	63
Paper handling	64

Print quality	64
Paper types	64
System setup	65
Service	65
Device Polling	65
Print settings	65
Printing	65
PCL 5e	66
PostScript	66
Network settings	66
Embedded Web server	66
Features	66
Secure the embedded Web server	67
Macintosh Configure Device (Mac OS X v10.3, v10.4, and later)	67

4 Theory of operation

Basic operation	70
Sequence of operation for the base unit	70
Scanner and ADF functions and operation	72
Scanner functions	72
Scanner operation	73
ADF operation	73
ADF paper path and ADF sensors	74
ADF jam detection	75
Internal components (base unit)	76
Engine control system	78
Laser/scanner system	80
Pickup/feed/delivery system	81
Image-formation system	83
Fax functions and operation	87
Computer and network security features	87
PSTN operation	87
Receive faxes when you hear fax tones	87
Distinctive ring function	88
Fax by using Voice over IP services	88
The fax subsystem	89
Fax card in the fax subsystem	89
Safety isolation	89
Safety-protection circuitry	89
Data path	90
Hook state	90
Downstream device detection	90
Hook switch control	90
Ring detect	91
Line current control	91
Billing- (metering-) tone filters	91
Fax page storage in flash memory	91
Stored fax pages	91
Advantages of flash memory storage	91

5 Removal and replacement

Introduction	94
Removal and replacement strategy	94
Electrostatic discharge	94
User-replaceable parts	94
Required tools	95
Before performing service	95
After performing service	96
Post-service tests	96
Test 1 (print-quality test)	96
Test 2 (copy-quality test)	96
Test 3 (fax-quality test)	97
Parts removal order	98
Remove the print cartridge	99
External panels, covers, and doors	100
Right cover	100
Left cover	102
Print-cartridge door	104
Rear cover	106
Top cover	108
Replace the ADF pickup-roller assembly	110
ADF scanner glass	113
ADF assembly	115
Scanner/ADF assembly	117
Bezel and control panel	119
Internal assemblies	122
Convenience-stapler assembly (HP LaserJet M2727nfs only)	122
Convenience-stapler power supply (HP LaserJet M2727nfs only)	124
Convenience-stapler AC inlet cable (HP LaserJet M2727nfs only)	126
Convenience-stapler power supply bracket and strap (HP LaserJet M2727nfs only)	127
Speaker	128
Power-switch PCA	130
Formatter	132
Duplex assembly	135
Laser/scanner (print engine)	137
Memory-tag-reader assembly (E-label reader)	139
Fan	141
Duplex-drive gears	143
Duplex solenoid	145
Fuser	147
Interlock assembly	152
Engine controller assembly (ECU)	153
Main motor	158
Pickup-and-feed assemblies	160
Transfer roller	160
Registration-roller assembly	161
Main gear assembly and tray 2 pickup solenoid	162

6 Solve problems

Problem-solving checklist	166
---------------------------------	-----

Control-panel messages	169
Alert and warning messages	169
Alert and warning message tables	169
Critical error messages	177
Critical error message-tables	177
Clear jams	179
Causes of jams	179
Where to look for jams	180
Clear jams from the ADF	180
Clear jams from the input-tray areas	182
Clear jams from the duplexer	184
Clear jams from the output-bin areas	186
Top (face-down) output bin	186
Rear (face-up) output bin	187
Clear jams from the print-cartridge area	188
Clear jams from the convenience stapler (HP LaserJet M2727nfs MFP only)	189
Avoid repeated jams	190
Control-panel menus	191
Use the control-panel main menus	191
Control-panel main menus	191
Control-panel secondary menus	199
Use the control-panel secondary menus	199
Control-panel secondary menus	199
Print problems	204
Print-quality problems	204
Improve print quality	204
Print-quality settings	204
Identify and correct print defects	205
Print-quality checklist	205
General print-quality issues	205
Scan problems	211
Solve scanned-image problems	211
Scan-quality problems	213
Prevent problems	213
Solve scan-quality problems	213
Copy problems	214
Prevent problems	214
Image problems	214
Media-handling problems	215
Performance problems	217
Fax problems	218
General fax problem-solve	218
Problems receiving faxes	219
Problems sending faxes	222
Voice-call problems	224
Media-handling problems	225
Performance problems	226
Control-panel display problems	227
Convenience-stapler problems (HP LaserJet M2727nfs only)	227
DSL problems	228

PABX line problems	228
ADF problems	229
Functional checks	230
Drum rotation test	230
Engine test	231
Half self-test functional check	232
Perform a half self-test check	232
Perform other checks	232
Heating element check	233
High-voltage contacts check	233
Check the print-cartridge contacts	233
Check the high-voltage connector assembly	234
Service-mode functions	235
NVRAM initialization	235
Super NVRAM initialization	235
Service menu	235
Problem-solve tools	237
Product information pages and reports	237
Configuration page	237
Supplies Status page	237
PCL, PCL 6, or PS font list	237
Demo page	238
Usage page	238
Menu map	238
Network report	238
Fax reports	239
Fax activity log	239
Fax call report	239
Phone book report	239
Billing-code report	240
HP ToolboxFX	240
To view HP ToolboxFX	240
Troubleshooting tab	240
Service menu	241
Restore the factory-set defaults	241
Clean the paper path	241
T.30 protocol trace	242
Archive print	242
Firmware updates	243
Firmware update by using a flash executable file	243

7 Parts

Accessories and ordering information	247
Supplies	248
Memory	248
Cable and interface accessories	248
Paper-handling accessories	249
Whole unit replacement	250
Scanner/ADF replacement parts	254
Control-panel bezels	255

Supplementary documentation and support	257
Problem-solve diagrams	259
Repetitive image defects	259
Interface connectors	260
Formatter connectors	260
Fax card	261
Solenoids	262
Switches and sensors	263
Rollers and pads	264
PCAs (base unit)	265
Major components (base unit)	266
Scanner and ADF	267
Circuit diagram (1 of 2)	268
Circuit diagram (2 of 2)	268
Parts lists and diagrams	270
Types of screws	271
Scanner and ADF assemblies	272
Scanner components	274
ADF components	276
Convenience stapler components (HP LaserJet M2727nfs only)	278
Formatter, fax card, HP jewel, and nameplate	280
External covers and panels	282
Cartridge door assembly	284
Internal components (1 of 4)	286
Internal components (2 of 4)	288
Internal components (3 of 4)	290
Internal components (4 of 4)	292
Engine-controller assembly (ECU)	294
Main-drive assembly	296
Duplexing-drive assembly	298
Tray 2 cassette and tray 3 cassette/feeder	300
Duplexing assembly	302
Fuser assembly	304
Alphabetical parts list	306
Numerical parts list	312

Appendix A Service and support

Hewlett-Packard limited warranty statement	319
Print cartridge limited warranty statement	321

Appendix B Specifications

Physical specifications	324
Electrical specifications	324
Power consumption	324
Environmental specifications	325
Acoustic emissions	325

Appendix C Regulatory information

FCC compliance	328
----------------------	-----

Environmental product stewardship program	329
Protecting the environment	329
Ozone production	329
Power consumption	329
Toner consumption	329
Paper use	329
Plastics	329
HP LaserJet print supplies	329
Return and recycling instructions	330
United States and Puerto Rico	330
Multiple returns (two to eight cartridges)	330
Single returns	330
Shipping	330
Non-US returns	330
Paper	330
Material restrictions	330
Disposal of waste equipment by users in private households in the European Union	331
Material Safety Data Sheet (MSDS)	331
For more information	332
Telephone Consumer Protection Act (United States)	333
IC CS-03 requirements	333
EU statement for telecom operation	334
New Zealand telecom statements	334
Declaration of conformity	335
Safety statements	336
Laser safety	336
Canadian DOC regulations	336
EMI statement (Korea)	336
Laser statement for Finland	337
Substances table (China)	338
Index	339

For the complete PDF manual
please visit www.LaserPros.com.